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BY ALTON BLATHE AIR WE BREATHE

The symposium on pollution of "The Air We Breathe" at San Francisco, Calif. MEDICAL JOURNAL

THE AIR WE BREATHE SAN FRANCISCO SYMPOSIUM

[FROM A SPECIAL CORRESPONDENT]

"In a lifetime the volume of air breathed by a single individual is far more than the cubic capacity of Madison Square Garden or the Los Angeles Coliseum." This sentence was used to introduce a symposium held under the title "Man and his Environment: The Air we Breathe," which took place in San Francisco over the week-end beginning January 16. The conference was ably designed by its organizers to promote discussion of the wider aspects of air pollution and climatic stress; it was presented under the combined auspices of the University of California School of Medicine and the University Extension Department of Continuing Education in Medicine and Health Sciences, and was partly financed by the U.S. Tobacco Industry Research Committee.

"Capsule Climates"

Any fears that the conference might have been confined to mere provincial technology were dispelled by the opening paper by Professor HAROLD UREY, professor of chemistry-at-large in the University of California, who, under the deceptively innocent title "The Dynamic Nature of the Atmosphere," told us of the formation and fate of the atmospheres of most of the planets including the Earth. Dr. L. P. HERRINGTON, of Yale, displayed some of his laboratory findings on human reaction to experimental climatic stresses, and discussed the possible physiological mechanisms of acclimatization. The strictly limited atmospheres of nuclear-powered submarines and space ships of the future were discussed by Captain ALBERT BEHNKE, formerly director of the United States Navy Radiation Defense Laboratory, in a paper on "Capsule Climates." Serious pollution of these confined spaces can be caused by minute amounts of such substances as hydrocarbons in paint, and the problems posed by smoking in them were discussed. Processes to complement man's katabolic activities must be sought as the space confining him got less, and Dr. Behnke suggested that the alga *Chlorella* in nutrient solutions might be the answer to the problem.

Hydrocarbons from "Blow By"

Professor THEODORE HATCH, of Pittsburgh, whose work and wisdom are so well known in Britain, spoke of the classic concepts of the fate of inhaled dusts, and emphasized the need for further study of the pathways of lung clearance. Dr. T. F. MANCUSO (Columbus) pleaded for more attention to be given to the additive effects of minute amounts of pollutants of industrial and communal environments. He was followed by Professor Emeritus R. R. NEWELL, who spoke with a fine sense of proportion on the airborne hazards of atomic energy. His paper ranged from the safety of reactors to the use of nuclear explosives in making a second Panama Canal. Dr. RICHARD PRINDLE, of the U.S. Public Health Service, delivered a thoughtful assessment of modern "smog disasters," and Dr. LESLIE CHAMBERS demonstrated the monstrous role played by 3m. motor-cars in making Los Angeles a most irritant city; not only must the exhausts of cars be studied and suppressed, but Dr. Chambers told us of a new source of hydrocarbons in "blow by"—the loss of petrol through crank-case vents. The rival merits of the horse as a means of transport were discussed.

Dr. PATRICK LAWTHOR, of the M.R.C. Group for Research on Atmospheric Pollution, distinguished British urban pollution from more exotic miasmata, and was followed by Professor T. J. KENT, who spoke humbly of the failure of the San Francisco Bay Authorities to plan effectively to limit pollution of their enviable air.

On the third day Professor JETHRO GOUGH, of Cardiff, discussed the effects of dusts on human lungs, illustrating his talk with dozens of his exquisite sections. Professor J. H. COMROE was unable to give his paper, and it was a pleasant surprise to your correspondent to find Dr. MALCOLM McILROY, formerly of Bart's, deputize with an erudite discourse on the "Alveolar Environment." The importance of the body plethysmograph as a research tool was convincingly demonstrated. Professor C. P. YAGLOU, of Harvard, asked, "Are air ions a neglected biological factor?" and, though his experimental work was negative, seemed rightly to imply that the possible effects of charged particles merited further study.

Lung Cancer in English Emigrants

The final session was lively. Professor PAUL KOTIN, of Los Angeles, demonstrated the experimental approach to lung cancer to which he has made such notable contributions, and he was followed by Dr. E. CUYLER HAMMOND, of the American Cancer Society, who spoke of the statistical approach, with special reference to tobacco smoking. His thesis was vigorously attacked by Dr. JOSEPH BERKSON, of the Mayo Clinic, after which Dr. DAVID EASTCOTT from New Zealand soberly showed the differing fate in his country of natives and immigrants from England. Dr. Eastcott claimed that among the several factors which caused lung cancer was one which had operated in England before emigration. This might be air pollution which could exert its effect either directly by virtue of its carcinogenic nature or less directly by producing an antecedent and predisposing chronic bronchitis. The panel discussion which followed this session was the only one of three to go with any sense of reality and purpose, and one felt that open questions from the audience would have produced more fruitful discussion in other sessions.

The *Proceedings* of this conference will be published in full.

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